

We claim:

1. An aqueous pigment formulation comprising
  - (A) at least one organic and/or inorganic pigment,
  - 5 (B) at least one polyethylene glycol alkyl ether functionalized with a terminal acid group,
  - (C) at least one alkoxyated styrene-phenol condensate,
  - (D) at least one polyethylene glycol ether having an average molar mass between 200 and 1000 g/mol,
  - 10 (E) at least one alkynediol,
  - (F) fats and oils of vegetable and/or animal origin and/or saturated and unsaturated higher fatty acids of such fats and oils and/or salts of such saturated and unsaturated higher fatty acids,
  - (G) if appropriate an aqueous acrylate resin solution,
  - 15 (H) if appropriate a polymeric condensation product of aromatic sulfonic acids and formaldehyde and/or of the salts of aromatic sulfonic acids and formaldehyde,
  - (I) if appropriate a sulfosuccinic monoester of a castor oil alkoxyate,
  - (J) if appropriate a hydrotropic substance,
  - 20 (K) if appropriate further add materials customary for aqueous pigment formulations, and
  - (L) water.
2. The pigment formulation according to claim 1 comprising essentially
  - 25 (A) 5% to 80% by weight of at least one organic and/or inorganic pigment,
  - (B) 0.1% to 30% by weight of at least one polyethylene glycol alkyl ether functionalized with a terminal acid group,
  - (C) 0.1% to 30% by weight of at least one alkoxyated styrene-phenol condensate,
  - 30 (D) 0.5% to 50% by weight of at least one polyethylene glycol ether having an average molar mass between 200 and 1000 g/mol,
  - (E) 0.1% to 5% by weight of at least one alkynediol,
  - (F) 0.1% to 10% by weight of fats and oils of vegetable and/or animal origin

and/or saturated and unsaturated higher fatty acids of such fats and oils  
and/or salts of such saturated and unsaturated higher fatty acids,

(G) 0% to 30% by weight of an aqueous acrylate resin solution,

(H) 0% to 10% by weight of a polymeric condensation product of aromatic  
5 sulfonic acids and formaldehyde and/or of the salts of aromatic sulfonic  
acids and formaldehyde,

(I) 0% to 10% by weight of a sulfosuccinic monoester of a castor oil alkoxyate,

(J) 0% to 30% by weight of a hydrotropic substance,

(K) 0% to 10% by weight of further add materials customary for aqueous  
10 pigment formulations, and

(L) 5% to 90% by weight of water,

all based on the total weight of the pigment formulation.

3. The pigment formulation according to claim 1 or 2 comprising essentially

15 (A) 20% to 70% by weight of at least one organic and/or inorganic pigment,

(B) 1% to 15% by weight of at least one polyethylene glycol alkyl ether  
functionalized with a terminal acid group,

(C) 1% to 15% by weight of at least one alkoxyated styrene-phenol  
condensate,

20 (D) 1% to 20% by weight of at least one polyethylene glycol ether having an  
average molar mass between 200 and 1000 g/mol,

(E) 0.1% to 2% by weight of at least one alkyndiol,

(F) 0.1% to 5% by weight of fats and oils of vegetable and/or animal origin  
and/or saturated and unsaturated higher fatty acids of such fats and oils  
25 and/or salts of such saturated and unsaturated higher fatty acids,

(G) 0% to 25% by weight of an aqueous acrylate resin solution,

(H) 0% to 5% by weight of a polymeric condensation product of aromatic  
sulfonic acids and formaldehyde and/or of the salts of aromatic sulfonic  
acids and formaldehyde,

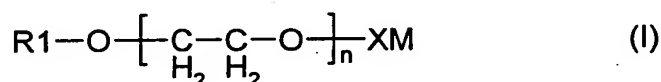
30 (I) 0% to 8% by weight of a sulfosuccinic monoester of a castor oil ethoxylate,

(J) 0% to 20% by weight of a hydrotropic substance,

(K) 0% to 5% by weight of further add materials customary for aqueous pigment  
formulations, and

(L) 10% to 70% by weight of water,  
all based on the total weight of the pigment formulation.

4. The pigment formulation according to one or more of claims 1 to 3 wherein  
5 said organic pigment (A) is at least one pigment from the group of the monoazo,  
disazo, laked azo,  $\beta$ -naphthol, Naphthol AS, benzimidazolone, disazo  
condensation, azo metal complex, phthalocyanine, quinacridone, perylene,  
perinone, thioindigo, anthanthrone, anthraquinone, flavanthrone, indanthrone,  
isoviolanthrone, pyranthrone, dioxazine, quinophthalone, isoindoline, isoindolinone  
10 or diketopyrrolopyrrole pigments or an acidic to alkaline carbon black from the  
group of the furnace blacks or lamp blacks, or a combination thereof.
5. The pigment formulation according to one or more of claims 1 to 4 wherein  
the organic pigment is combined with carbon black or titanium dioxide.
- 15 6. The pigment formulation according to one or more of claims 1 to 5 wherein  
said polyethylene glycol alkyl ether (B) functionalized with a terminal acid group  
corresponds to a compound of the formula (I):

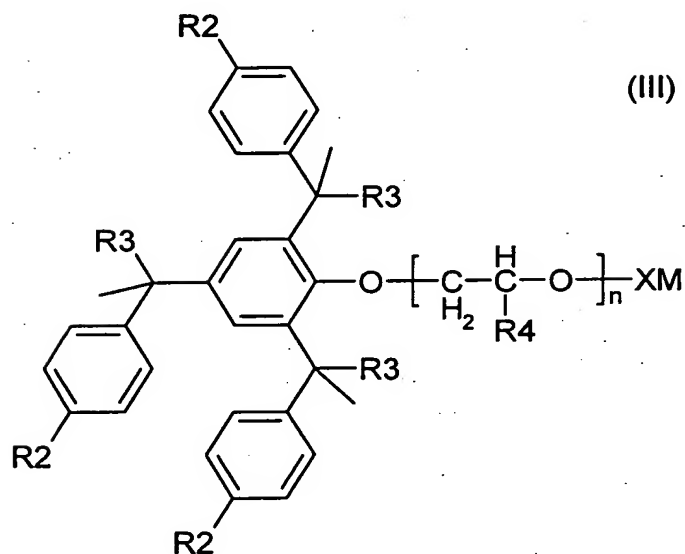
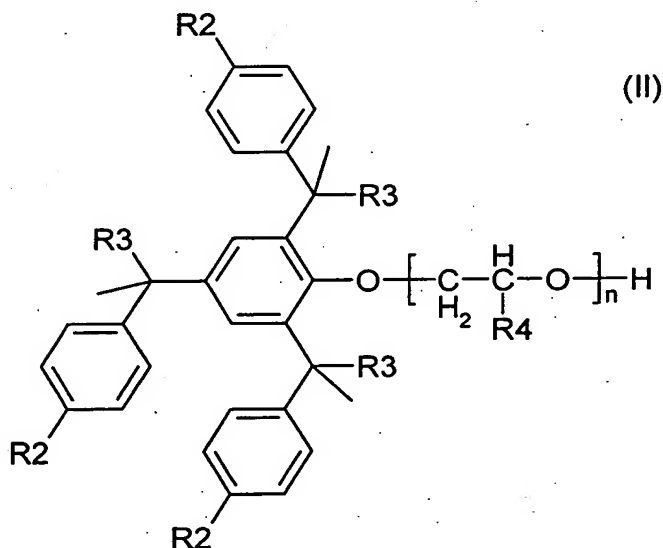


where

- 20  $R^1$  is a substituted or unsubstituted, branched or unbranched  $C_1$ - $C_{20}$ -alkyl or  
 $C_3$ - $C_{20}$ -cycloalkyl radical or a substituted or unsubstituted, branched or  
25 unbranched  $C_2$ - $C_{20}$ -alkenyl or  $C_3$ - $C_{20}$ -cycloalkenyl radical, the substituents  
being 1, 2, 3 or 4 radicals in the group consisting of halogen, aryl,  
aryl( $C_1$ - $C_{20}$ )alkyl,  $C_5$ - $C_6$ -cycloalkyl, hetaryl, hetaryl( $C_1$ - $C_{20}$ )alkyl and  
 $C_1$ - $C_{20}$ -alkoxy,
- $n$  is a number from 1 to 100,
- 30  $X$  is  $SO_3^-$ ,  $SO_2^-$ ,  $CH_2COO^-$ ,  $PO_3^{2-}$  or  $PO_3M^-$ , and
- $M$  is H, a monovalent metal cation, a divalent metal cation,  $NH_4^+$ , a secondary,  
tertiary or quaternary ammonium ion, or a combination thereof.

7. The pigment formulation according to one or more of claims 1 to 6 wherein said alkoxyated styrene-phenol condensate (C) corresponds to a compound of the formula (II) or (III) or a mixture thereof:

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where

R<sup>2</sup> is H, a branched or unbranched C<sub>1</sub>-C<sub>20</sub>-alkyl or C<sub>3</sub>-C<sub>20</sub>-cycloalkyl radical or a branched or unbranched C<sub>2</sub>-C<sub>20</sub>-alkenyl or C<sub>3</sub>-C<sub>20</sub>-cycloalkenyl radical,

$R^3$  and  $R^4$  are independently H, a branched or unbranched  $C_1$ - $C_{20}$ -alkyl or  $C_3$ - $C_{20}$ -cycloalkyl radical or a branched or unbranched  $C_2$ - $C_{20}$ -alkenyl or  $C_3$ - $C_{20}$ -cycloalkenyl radical,

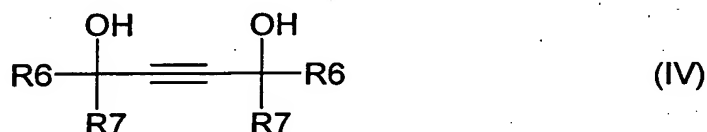
$n$  is a number from 1 to 100,

5  $X$  is  $CO-R^5-COO^-$ ,  $SO_3^-$ ,  $SO_2^-$ ,  $PO_3^{2-}$  or  $PO_3M^-$ ,

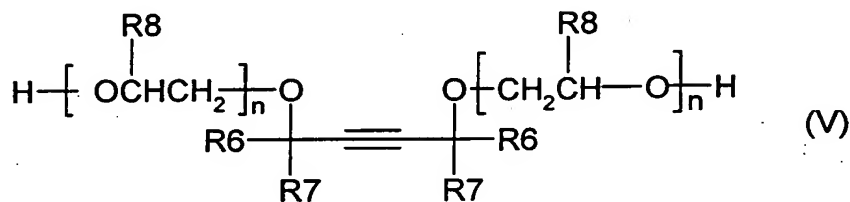
$R^5$  is a substituted or unsubstituted, branched or unbranched  $C_1$ - $C_{20}$ -alkylene radical, a substituted or unsubstituted, branched or unbranched  $C_2$ - $C_{20}$ -alkenylene radical, or a substituted or unsubstituted arylene radical, the substituents preferably being 1, 2, 3 or 4 radicals from the group consisting of halogen, hydroxyl,  $C_1$ - $C_4$ -alkoxy, nitro, cyano, carboxyl, amino and sulfo, and

10  $M$  is H, a monovalent metal cation, a divalent metal cation,  $NH_4^+$ , a secondary, tertiary or quaternary ammonium ion.

15 8. The pigment formulation according to one or more of claims 1 to 7 wherein said alkyne diol (E) corresponds to a compound of the formula (IV) or (V) or a mixture thereof:



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where

25  $R^6$  is H or a branched or unbranched  $C_1$ - $C_4$ -alkyl radical or a branched or unbranched  $C_2$ - $C_4$ -alkenyl radical,

$R^7$  is a branched or unbranched  $C_3$ - $C_{20}$ -alkyl or  $C_3$ - $C_{20}$ -cycloalkyl radical or a branched or unbranched  $C_3$ - $C_{20}$ -alkenyl or  $C_3$ - $C_{20}$ -cycloalkenyl radical,

$R^8$  is H, a branched or unbranched  $C_1$ - $C_{20}$ -alkyl or  $C_3$ - $C_{20}$ -cycloalkyl radical or a branched or unbranched  $C_2$ - $C_{20}$ -alkenyl or  $C_3$ - $C_{20}$ -cycloalkenyl radical,

$n$  is a number from 1 to 100.

- 5 9. The pigment formulation according to one or more of claims 1 to 8 wherein said component (F) corresponds to a compound of the formula (VI) or a mixture thereof:



10 where

$R^9$  is a branched or unbranched  $C_7$ - $C_{29}$ -alkyl or a branched or unbranched  $C_7$ - $C_{29}$ -alkenyl radical, a branched or unbranched  $C_7$ - $C_{29}$ -alkdienyl radical, a branched or unbranched  $C_7$ - $C_{29}$ -alkatrienyl radical, and

$M$  is H, a monovalent metal cation,  $\text{NH}_4^+$ , a secondary, tertiary or quaternary ammonium ion,

or a fat or oil from the group consisting of tallow, palm kernel fat, coco fat, rapeseed oil, sunflower oil, linseed oil, palm oil, soya oil, peanut oil and whale oil.

10. A process for producing a pigment formulation according to one or more of claims 1 to 9, which comprises said component (A) together with said components (B), (C), (D), (E), (F) and if appropriate (G), (H), (I), (J) and (K) being incipiently pasted and homogenized in water (component L) and finely dispersed or finely dissipated with the aid of a grinding or dispersing assembly.

- 25 11. The use of a pigment formulation according to one or more of claims 1 to 9 for pigmenting natural or synthetic materials.

12. The use according to claim 11 for pigmenting natural and synthetic fiber materials, preferably cellulose fibers, especially for paper pulp coloration and laminate coloration.

13. The use according to claim 11 for pigmentation or production of waterborne printing inks, ink jet inks, electrophotographic toners, powder coatings, color filters,

electronic inks and "electronic paper", painting and emulsion colors, emulsion paintings, solventborne printing inks, wallpaper colors, water-thinnable paintings, wood preservation systems, viscose dope dyeing, sausage casings, seed, fertilizers, glass bottles, and also for mass coloration of roof shingles, for coloring  
5 renders, woodstains, colored pencil leads, felttip pens, waxes, paraffins, graphics inks, ballpoint pen pastes, chalks, washing and cleaning compositions, shoe care agents, latex products, abrasives and also for coloring plastics.